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SENSE AND NONSENSE ABOUT BED REST AS A THERAPEUTIC MEASURE

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Translation of "Über Sinn und Unsinn der Bettruhe als einer therapeutischen massnahme," Deutsche Gesundheitswesen (Ger), Vol. 24, 1969, pp. 2465-2467

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16. Abstract

The practice of undiscriminatingly confining patients to bed is criticized. Confinement to bed causes more complications than other measures, e.g. pharmacological, and some of these complications are described. Expanded opportunities for physical exercise for hospitalized patients are urged. Immobilization should be restricted to the part of the body for which it is absolute required, e.g. fractures.

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SENSE AND NONSENSE ABOUT BED REST AS A THERAPEUTIC MEASURE

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Of all the conceptual stereotypes which have "justified" /2465* the conviction that bed rest (confinement to bed) is always a correct prescription in case of doubt, we mention just two:

1. The widespread belief, which is sometimes accepted without any essential reservations, that intensive physical stress has great significance as a cause of disease, although experiments and experience have convincingly demonstrated that physical stress is one of the most important environmental factors of all to which the human being has adapted in its phylogenetic development, and that physical inactivity of high degree, if continued over a long period of time, can genuinely jeopardize life. The responsible physician will therefore not prescribed bed rest without clear proof of its utility in the case under consideration.

2. The idea that, aside from the numerous different, "specific" therapeutic measures, there is a largely or even completely identical "basic treatment" for various diseases, including e.g. bed rest -- although both fundamental research and clinical practice have long since proven that confinement to bed can often do great harm, sometimes even more than the primary disease itself. The detrimental consequences, both temporary and persistent, of bed rest are more frequent than ill effects due to other, e.g. phamacotherapeutic, measures.

The speed at which the patient recovers his full capacities after a disease is influenced by the nature and course of the

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* Numbers in the margin indicate pagination in the foreign text.

disease itself, but also by certain other circumstances, among which the effects of confinement to bed play a special role.

General weakness and frailty are nonspecific symptoms of numerous diseases, particularly acute ones and those accompanied by fever. In addition, they are found after major injuries, after surgical operations, etc. It is understandable that such patients will need bed rest during this stage. However, it is dubious and dangerous to extend this to a dogma of treatment of all diseases, but, unfortunately, this happened in th past, and still happens in part today. In spite of a large amount of information on the subject, only a few clinicians have come out against the ritual of undiscriminatingly assigning patients to bed. Withers (1958) wrote that -- before a physician puts a patient in bed -- he should ask himself why he is doing it, what favorable result he expects from it, and what harm such a measure might cause. Various British authors consider confinement to bed as one of the most powerful drugs; it should only be employed when clearly indicated and only in absolutely necessary dosages, just like morphine, cocaine, etc., and repeated application should require a new prescription.

The problem of "bed rest" is of interest for physicians of all specialities and patients of all ages -- for pediatricians, "mediatricians" and geriatricians. However, it is of particular interest for the latter because here every error in the physician's work causes consequences which are more difficult to remedy due to the diminished reactive and regenerative powers of the aged organism. Physical activity (physical training and sports) is an important factor in optimizing the living conditions of healthy persons; physical immobilization of ill persons must therefore be judged particularly critically from this viewpoint as well. It is not just patients and their relatives who associate "hospital" with "confinement to bed." It is no accident that the capacity of

a hospital is determined by its number of beds. In many hospitals, the chances for a patient to spend many hours of the day out of bed are both spatially and organizationally restricted. In ambulant care, the patient's question of whether he must stay in bed or not is usually answered in the affirmative by the physician, because less risk is seen in physical immobilization than in maintenance of normal activity. In the past, the knowledge of physiology at the time may have been consistent with including confinement to bed in the fundamental principles of medical treatment. However, there is no longer any justification for such a mechanical procedure.

Confinement to bed has been considered a risk factor primarily from the surgical side, and particularly in postoperative situations. Hence, early postoperative mobilization was a logical consequence, in order to avoid the otherwise more frequent complications. We mention only in passing that economic questions must also be kept in mind. /2466

As for the changes in structure and function of the human organism occurring as a result of physical inactivation, the following findings should be noted:

Deitrick et al. (1948): Volunteers were immobilized for 6 weeks. Afterward, there were tremors, vasomotor lability, disturbed homeostatic functions; and, due to high catabolism, a negative calcium and nitrogen balance. In many cases, up to 6 weeks were required to overcome the consequences of the immobilization.

Cuthbertson (1929), Johnston (1950): During confinement to bed, diminished retention of nitrogen and sodium, simultaneously increase loss of calcium and phosphorus.

Miller et al. (1964): Volunteers were immobilized for 4 weeks by "absolute bed rest." Results: reduction of blood volume, appearance of hypostatic collapse states during changes of position on the tilting table, and other signs of disturbed circulatory regulation.

Our experience has shown that in many cases the confinement to bed ordered without indication and/or not limited in time can cause considerable harm to older persons:

Heart, circulation: Often marked deterioration of heart-circulation regulation in older persons; moreover, frequent thrombophlebitic complications, including pulmonary embolisms.

Respiratory tract: Although it is known that confinement to bed favors the development of infectious complications in the tracheobronchial system, because the reduced ventilatory power causes some of the alveoli to collapse and to be inadequately ventilated, infections of the respiratory tract are still considered particularly urgent indications for ordering confinement to bed.

Gibson (1956), using two groups of patients with a total of 541 cases of respiratory infections, one group confined to bed and the other free to move at will, showed that both the duration of the disease and the time to defervescence were the same for both groups.

Decubital ulcers: The most serious complication of prolonged bed rest, unless there is appropriate care with changes of position, skin care, etc.

Muscular atrophy: Sets in relatively quickly; a completely immobilized muscle loses 10 to 15% of its strength every week.

Osteoporosis: Localized, or appearing in large areas of the skeleton, when bones are not "loaded" through normal physical activity. In extreme cases, compression fractures of several vertebrae as well as hip fractures, sometimes after even the slightest traumas.

Contractures: Begin rapidly, particularly in advanced age, and often not correctible.

Intestinal dysfunctions: Most frequent complication of confinement in bed. Sometimes constipation of the most serious degree, occasionally with slight rises in temperature, nausea, etc. The use of bed pans creates not only physiological problems, but psychological ones as well!

Complications in the vicinity of the efferent urinary passages: Confinement in bed leads to stasis of the urine in the efferent urinary passages. This, and the increased calcium elimination often accompanying physical immobilization (increased catabolism of bone!) as well as changes in the pH of the urine frequently result in the formation of stones in the efferent urinary passages. In older patients confined to bed, often diminished sensitivity of the bladder, with disturbed stretch reflex, so that it does not empty completely.

Summary of Conclusions

1. In each stage of life and, above all, in advanced age, where the adaptability of the organism and its compensative ability are reduced, the medical prescription of rest in bed (confinement to bed) and its duration must depend on strict indications.

2. In order to prevent the above complications, the immobilization should be limited to that part of the body for which it is

absolutely required (e.g. at fractures). In any case, a physical training treatment should be implemented.

3. In addition to the physical changes which we know and fear as a consequence of confinement to bed, genuine psychic complications (increased resignation due to the reduced capacities resulting from confinement to bed) are developed, particularly by older persons.

4. If prolonged confinement to bed is absolutely required, the physical and psychic risks of complications must be counteracted by intensive nursing and medical care.

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